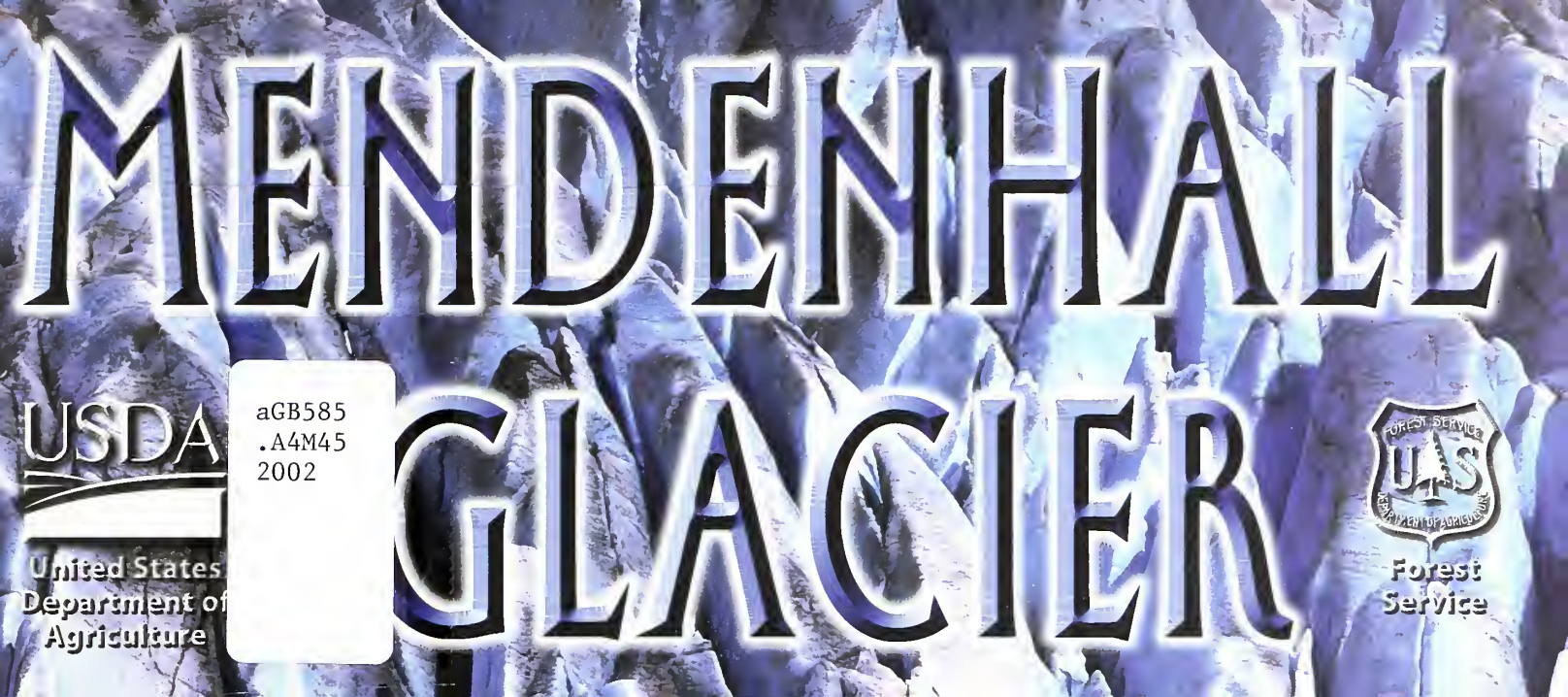


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United States
Department of
Agriculture





GLACIER




Forest
Service

WELCOME TO MENDENHALL GLACIER VISITOR CENTER

In 1962 the Forest Service constructed Mendenhall Glacier Visitor Center, the first national forest visitor center. Remodeled and rededicated in 1999, Mendenhall Glacier Visitor Center offers a wide range of visitor activities. Some favorite activities include watching spawning salmon at the Steep Creek salmon viewing platform, spotting mountain goats from the center's observatory, and joining a Forest Service guide for a hike.

-  **Exhibit Hall**—Explore glacial phenomena through interactive exhibits including a model of the Mendenhall Glacier and a replica of an icefield research station.
-  **Observatory**—View Mendenhall Glacier, icebergs or mountain goats through panoramic windows and telescopes. Learn about Mendenhall Glacier from national forest guides during frequent talks near the observatory relief map.
-  **Theater**—Watch the 11-minute *Magnificent Mendenhall* movie and enjoy the striking cinematography of Mendenhall Glacier and the Juneau Icefield.
-  **Alaska Natural History Association Gift Shop**—Find unique gifts, books and artwork about glaciers, plant succession and Mendenhall Valley.

 **Information Desk**

 **Restrooms**

 **Elevators**

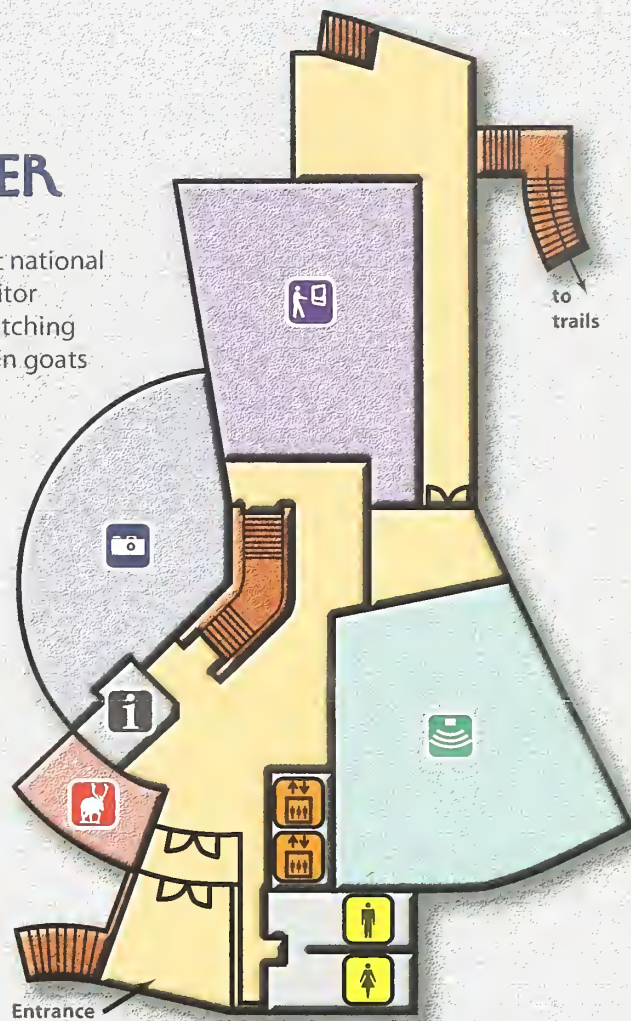
Salmon Viewing Platform—View sockeye and coho salmon in their natural environment and learn about spawning behavior and bear safety from Forest Service guides.

Guided Hikes—Hike with a Forest Service guide and explore the de-glaciated landscape or salmon spawning streams. Come prepared for adverse weather conditions. Hikes cover moderate terrain and may last up to two hours.

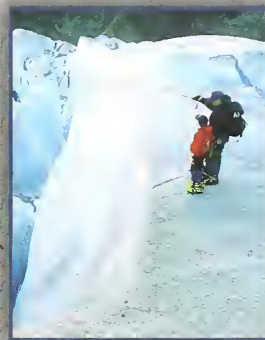
Fish Cam—Explore the world of spawning salmon through the eye of the fish cam during late July and August.

Kids Programs—Learn about the natural environment with a Forest Service guide. Discover glaciers, salmon, bugs, survival, wild edible foods, and bears during Saturday programs.

*Frozen lake ice offers many winter activities.
Be aware of thin ice near the glacier's face.*



During winter, sledding is popular with kids.



Glacier trekking requires skill, the right equipment, and experience.



Hikers near the glacier need to be alert for bears.



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MENDENHALL GLACIER MOVES AND SHAPES THE MENDENHALL VALLEY

WHY DO GLACIERS FORM?

In Southeast Alaska, maritime climate and coastal mountains create favorable conditions for glaciation. Moist air flows toward the mountains, rises, cools and releases snow and rain. Average annual snowfall on the Juneau Icefield exceeds 100 feet. Mild Southeast Alaskan summers cause winter snow accumulation to exceed summer snowmelt at higher elevations. Year after year, snow accumulates, compacting underlying snow layers from previous years into solid ice.

Mendenhall Glacier is one of 38 large glaciers that flow from the 5,000 square mile expanse of rock, snow and ice known as the Juneau Icefield. As glacial ice continues to build, gravity pulls the ice down slope. The glacier slowly scours the bedrock and grinds down its 13½-mile¹ journey to Mendenhall Lake.



A Forest Service guide interprets the natural and cultural history of Mendenhall Glacier.

Visitors view Mendenhall Glacier from Photo Point.



WHAT EVIDENCE DO GLACIERS LEAVE BEHIND?

The base of Mendenhall Glacier works like a giant piece of sandpaper. As the ice flows towards Mendenhall Lake, the glacier plucks rocks that become imbedded in the ice from the valley floor. The glacier scrapes these rocks across the bedrock creating **grooves** and **striations**. The glacier's erosive power changes the landscape and scrapes much of the soil and rock from valley walls. Rocks scoured from the surrounding valley walls create dark debris lines called **moraines** on the edges and down the center of the glacier. As the glacier continues its path towards Mendenhall Lake, it grinds rock to a fine powder called **rock flour** that escapes with glacial melt water and creates the lake's murky color. Mendenhall Glacier's retreat exposes its **trimlines**, slightly sloping changes in vegetation on the valley walls that indicate the glacier's height at its point of maximum advance. As the glacial ice melts or calves **icebergs**, the glacier drops geologically misfit rocks called **erratics** that its ice either quarried further up the valley or that fell onto the ice from rock walls above the glacier. These granitic boulders can be seen lying on the metamorphic rock around the visitor center.

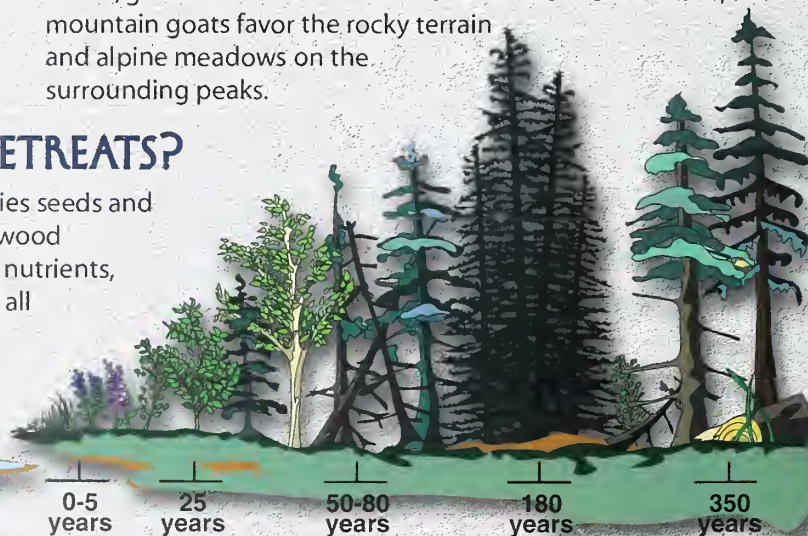
IS THE GLACIER RETREATING?

A neo-glaciation period began 3,000 years ago and ended in the mid-1700s. At this time, Mendenhall Glacier reached its point of maximum advance, and its terminus rested almost 2.5 miles down valley from its present position. Mendenhall Glacier started retreating in the mid-1700s because its annual rate of melt began to exceed its annual total accumulation. The icefield's snowfall perpetually creates new glacial ice for Mendenhall Glacier, and this ice takes 200–250 years to travel from the Juneau Icefield to Mendenhall Lake.¹ Water depth at the glacier's terminus is 220 feet deep.¹ The glacier's terminus currently calves into Mendenhall Lake where the ice retreats at a rate of 100 to 150 feet a year¹. At this rate, the glacier would take several centuries to completely disappear.

For Mendenhall Glacier to advance, the icefield's snowfall needs to increase, the glacier's rate of melt needs to decrease, or both. Glacial advance would require a reversal of the current warming trends.

WHAT HAPPENS AFTER THE GLACIER RETREATS?

As Mendenhall Glacier retreats and uncovers bare rock, the wind carries seeds and spores of moss and lichen onto barren land. Alder, willow and cottonwood systematically grow in deglaciated landscapes. Glacial debris, poor in nutrients, depends on flowering lupine and alder to fix nitrogen in the soil, and all species add organic matter to the soil as they are overtopped and shaded out by other species. Spruce and hemlock ultimately rise to close the forest canopy, eventually creating an old growth forest. Encompassing almost 350 years, this sequence of **plant succession** provides habitat for an increasing number of plant and animal species.



¹ Motyka, R.J., O'Neel, S., Connor, C., and Echelmeyer, K.; Mendenhall Glacier Studies 1999–2000

Visitor Center and Parking Area Detail



Photo Point Trail—easy trail with scenic glacial views
length—0.3 miles
time—20 minutes
elevation gain—10 feet



Trail of Time—easy, self-guided nature trail; **length**—0.5 miles
time—1 hour
elevation gain—50 feet



Moraine Ecology Trail—easy trail that shows glacial effects on the landscape; **length**—1.5 miles
time—1 hour
elevation gain—10 feet



East Glacier Loop—moderate trail that follows the glacial trim line
length—3.5 miles; **time**—2 hours
elevation gain—400 feet



Nugget Creek Trail—moderate trail that follows the Nugget Creek drainage; **length**—3 miles + 3.5-mile access trail
time—5 hours
elevation gain—500 feet



West Glacier Trail—moderate trail that follows the glacier's west side
length—6.8 miles; **time**—5 hours
elevation gain—1,300 feet



Mendenhall Campground



Skaters Cabin Picnic Area



Salmon Viewing Platform



Mendenhall Glacier Visitor Center



Parking



Restrooms



Fish Cam

Mendenhall Glacier Recreation Area

Roads

Other Trails

Rivers

scale

2 miles

3 kilometers

Fee Demo

Mendenhall Glacier Visitor Center charges a \$3.00 admission fee as part of the Recreation Fee Demonstration Project. This pilot program allows federal land management agencies to collect user fees that provide enhancements and improve existing services. Funds collected at the Mendenhall Glacier Visitor Center help pay for additional staffing, extended hours of operation, and utilities. All activities outside the center are available free of charge.

Additional Information

USDA Forest Service
Mendenhall Glacier Visitor Center
8465 Old Dairy Road
Juneau, AK 99801

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WHO WAS MENDENHALL?

Appointed by President Harrison, Thomas Corwin Mendenhall (1841–1924) served as Superintendent of the U.S. Coast and Geodetic Survey from 1889 to 1894. A noted scientist, Mendenhall also served on the Alaska Boundary Commission

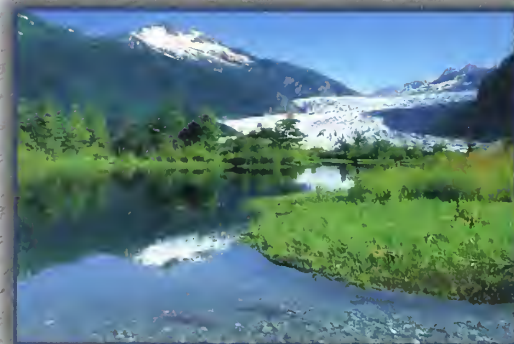
that was responsible for surveying the international boundary between Canada and Alaska. In 1892, this glacier was renamed to honor Mendenhall. Naturalist John Muir first named the glacier Auke Glacier in 1879 after the Aak'w Kwáan of the Tlingit Indians.

Thomas Corwin Mendenhall.

WHY IS THE ICE BLUE?

Glacial ice appears blue because it absorbs all colors of the visible light spectrum except blue, which it transmits. The transmission of this blue wavelength gives glacial ice its blue appearance. Glacial ice may also appear white because some ice is highly fractured with air pockets and indiscriminately scatters the visible light spectrum.

Salmon make their way up Mendenhall Valley to spawn. Visitors can watch salmon from a viewing platform near the visitor center.



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